Microsoft® *Flight Simulator*
Fundamentals

© 2006 BruceAir, LLC
www.BruceAir.com
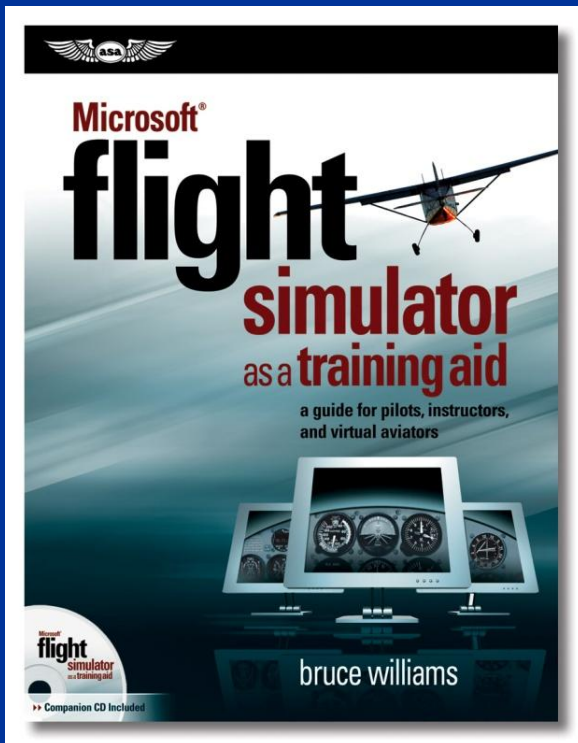
The following information applies to
Microsoft® Flight Simulator X and Flight Simulator 2004
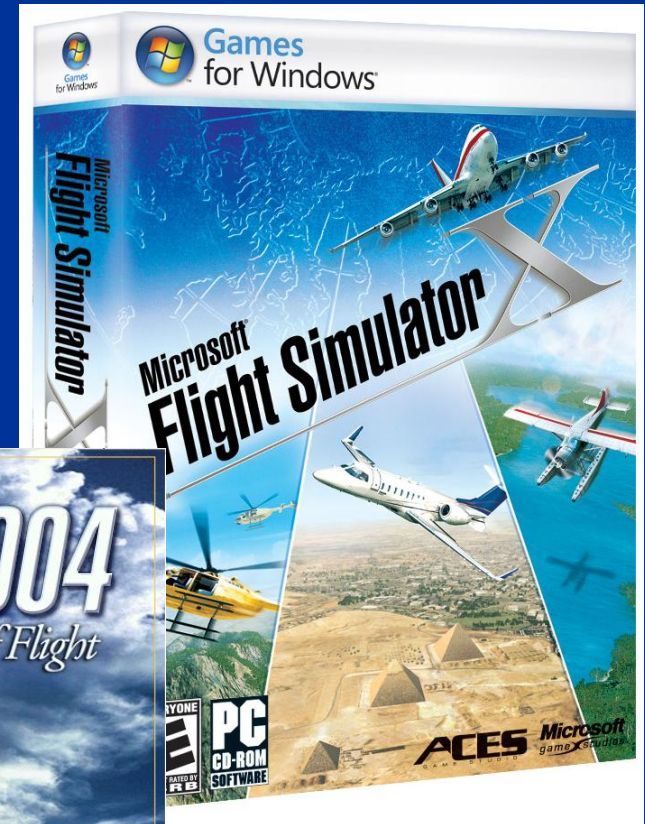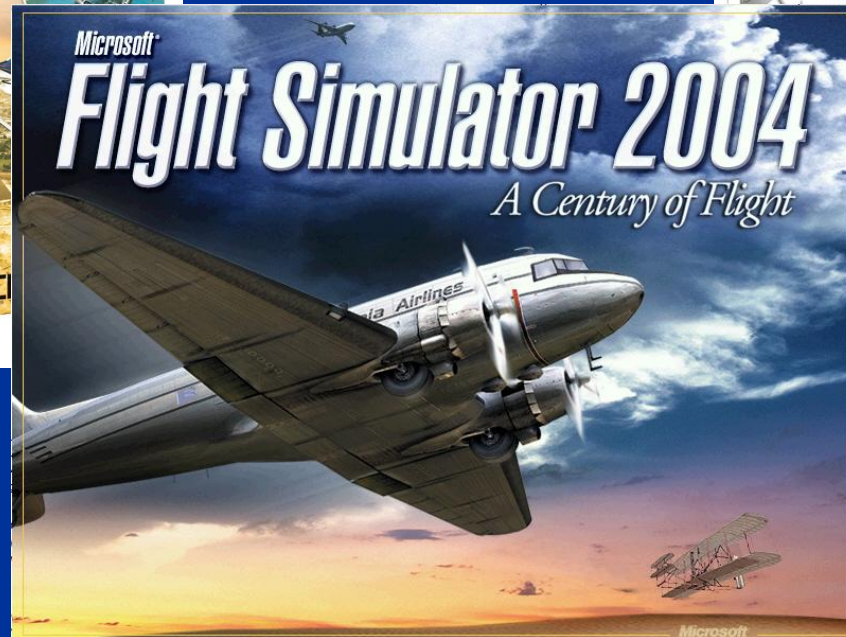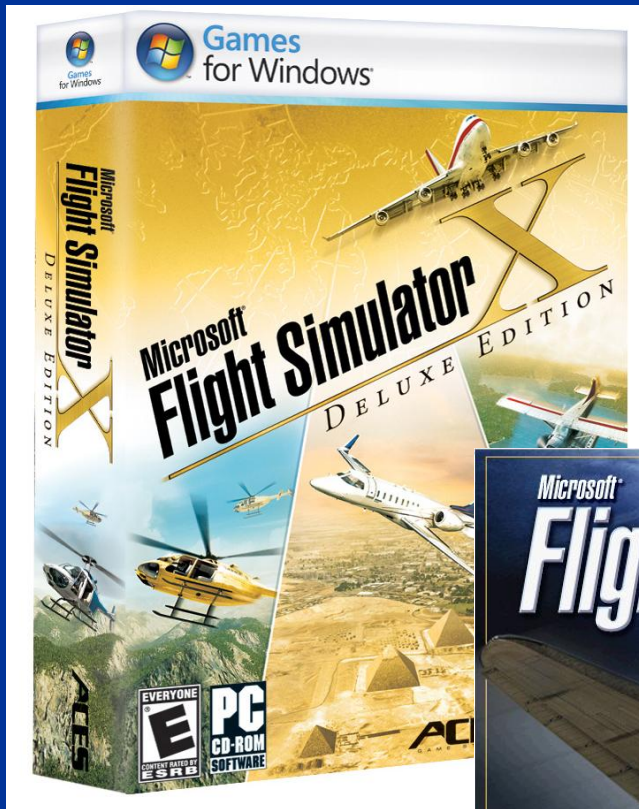
Contents

Useful Sources of Information

✈ As you fly, remember that Flight Simulator includes many useful sources of information. Don't worry about memorizing commands or features. Help is always just a click or key press away.

Flight Simulator 2004

Flight Simulator X

Useful Sources of Information

⤳ The **Learning Center** is the on-board Help for Flight Simulator. It's like a Web site on your computer that includes videos, pictures, procedures, and reference text.

Flight Simulator 2004

Flight Simulator X

Learning Center...

Flight Simulator on the Web
Flight Simulator Partners
Troubleshooting

About Microsoft Flight Simulator...

To visit the **Learning Center**, press the **ALT** key to display the Flight Simulator menu bar and then click **Learning Center** on the **Help** menu.

Flight Simulator 2004

The **Learning Center** includes a set of Key Topics, a Site Map that guides you to all available topics, and an Index to make it easy to find specific information.

To see the main pages of the Learning Center, click the Key Topics, Site Map, or Index tab labels.

The topics in the **Learning Center** include text, pictures, and videos to help you learn how to use all the features in Flight Simulator.

LEARNING CENTER

home   ◄ back   print

Welcome to the Learning Center, your source for information about using Flight Simulator.

KEY TOPICS   **SITE MAP**   **INDEX**

Click on the pictures below to see articles on that topic.

To see more information in the Learning Center window, use the vertical scroll bar.

Just Get M...   ...ting Help on the Fl...

Joysticks, Yokes,   Important Skills   Views and Windows   Changing Your

CANCEL   OK

Learning Center...
Keyboard Assignments

Flight Simulator on the Web
Flight Simulator Partners
Troubleshooting

About Microsoft Flight Simulator...
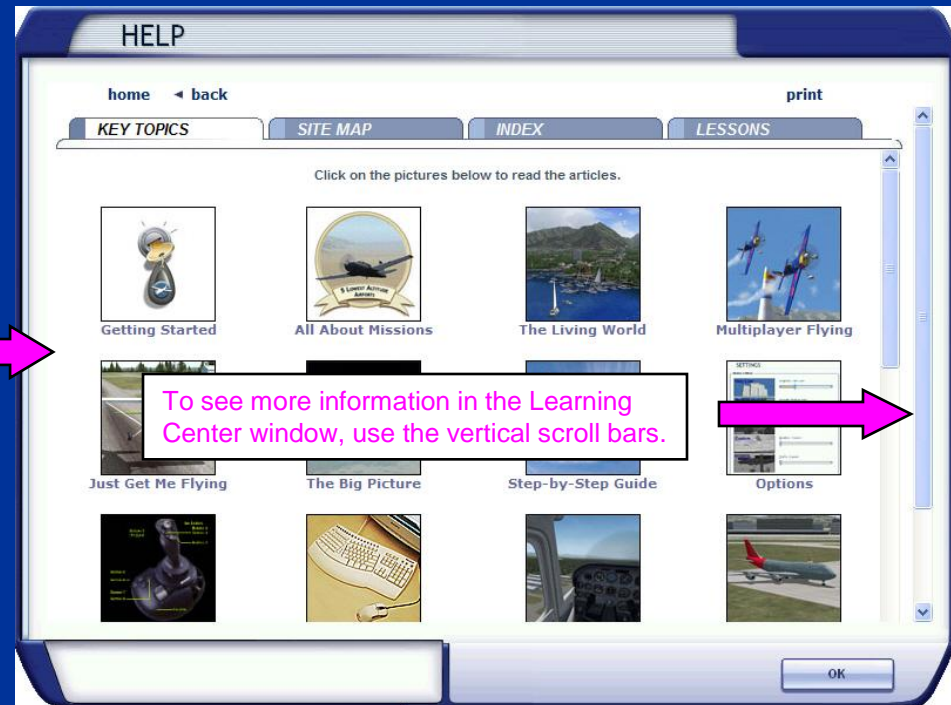
Flight Simulator X

To visit the **Learning Center**, press the **ALT** key to display the Flight Simulator menu bar and then click **Learning Center** on the **Help** menu.

The **Learning Center** includes a set of Key Topics, a Site Map that guides you to all available topics, and an Index to make it easy to find specific information.

To see the main pages of the Learning Center, click the Key Topics, Site Map, Index, or Lessons tab labels.

The topics in the **Learning Center** include text, pictures, and videos to help you learn how to use all the features in Flight Simulator.

HELP

home   ◄ back   print

KEY TOPICS   SITE MAP   INDEX   LESSONS

Click on the pictures below to read the articles.

Getting Started   All About Missions   The Living World   Multiplayer Flying

Just Get Me Flying   The Big Picture   Step-by-Step Guide   Options

To see more information in the Learning Center window, use the vertical scroll bars.

OK

LEARNING CENTER

home ◄ back

Using the GPS

A guide to global positioning system receivers in Flight Simulator

Back to Navigation

What is GPS?

GPS, or global positioning system, is a network of satellites that transmit coded data that receivers on the ground can use to determine their position on earth. GPS receivers determine location by comparing the angular relationships between the receiver and orbiting satellites. In this way, GPS is really quite similar to celestial navigation, which early pilots used to determine their whereabouts. The difference is that a GPS receiver uses a computer to compute position, while a pilot navigating with the stars had to operate a sextant and use complex tables.

The computer on board an aviation GPS receiver does much more than just tell a pilot where he is. It can also tell him where any other point on the planet is, and how to get there. GPS receivers are amazing pieces of technology, and are getting more sophisticated every year. Learning how to use one is fun, and the payoff for a bit of study and practice is huge. Fly with

Topics in the **Learning Center** include links to detailed information, just like a Web page.

CONTENTS

- What is GPS?
- What Can I Do with a GPS Receiver?
- Basic Concepts
- The Buttons and Knobs
- Navigation Page Group
- Waypoint Page Group
- Nearest Page Group
- Direct-To Navigation
- Active Flight Plan Page
- Procedures Page
- Frequently Asked Questions
- Abbreviations and Terminology

CANCEL   OK

The Kneeboard

✈ The **Kneeboard** is a handy pop-up reference that you can use as you fly.

Flight Simulator 2004

Flight Simulator X

The Kneeboard

⤳ To display or hide the Kneeboard, press the **F10** key or click the Kneeboard icon (☑) on the instrument panel.

Flight Simulator 2004

Kneeboard Icon

Flight Simulator 2004

Kneeboard Icon

Basic Flight Simulator Setup

- Although you can create an elaborate virtual cockpit, you can use Flight Simulator effectively with just a basic setup: joystick or yoke and mouse.

Typical Joystick Controls

Switches for trim, view, etc.

Rudder (twist)

Buttons for flaps, landing gear, etc.

Throttle

Roll mouse wheel to tune radios, adjust power, etc.

Using the Mouse Wheel

- ✈ Think of the mouse as an electronic extension of your hand.

- ✈ To operate many of the controls in the cockpit, use the mouse to point at a knob, button, or control, and:
  - Roll the mouse wheel slowly forward or backward
  - Click a button
  - Drag the mouse

Roll mouse wheel to tune radios, adjust power, etc.

Controlling the Airplane with the Mouse

✈ You can use the mouse to:
- Operate the throttle, propeller, mixture controls
- Change heading (when the autopilot is ON and in HDG mode)
- Extend and retract the flaps
- Adjust elevator, rudder, and aileron trim
- Change altitude and rate of climb or descent with the autopilot controls (when the autopilot is ON and ALT mode is selected)
- Tune communication and navigation radios
- Select courses on the VOR/ILS indicators and HSI
- Turn lights on and off
- Display and hide the Avionics panel, Kneeboard, Map View, GPS, and aircraft control sub-panels

Cockpit Orientation

- The following slides point out controls that you can operate by using the mouse as an electronic extension of your hand.

- In most cases, you can operate important controls much as you would in an airplane. Instead of pushing buttons and twisting knobs, however, point to an item and click the left mouse button or roll the mouse wheel forward and backward.

- The positions of some controls vary in different aircraft, just as they do in real cockpits, but the same basic actions apply regardless of which aircraft you're flying.

This is the normal (2D) Cockpit view for the Cessna 172S in FS2004. All aircraft have similar 2D cockpit views.

All 2D cockpits include a row of special icons. This row is in a different location on each aircraft's instrument panel.

Click the appropriate icon to display/hide the Kneeboard, ATC window, Map view, Avionics Stack, GPS, or Compass pop-up windows.3

You can operate electrical switches with the mouse

You can also operate the throttle, mixture, flaps, etc. with the mouse

This is the normal (2D) Cockpit view for the Cessna 172S in Flight Simulator X.

All 2D cockpits include a row of special icons. This row is in a different location on each aircraft's instrument panel.

Click the appropriate icon to display/hide the Kneeboard, ATC window, the Map, GPS, etc.

You can operate electrical switches with the mouse

You can also operate the throttle, mixture, flaps, trim, and avionics with the mouse wheel.

This screen shows a special IFR Training Panel in Flight Simulator 2004. IFR Training Panels are available for the C172S, C182S, and Mooney Bravo.

These IFR panels reduce the space devoted to the outside view so that the flight instruments, avionics stack, and other important controls are all visible in the main window.
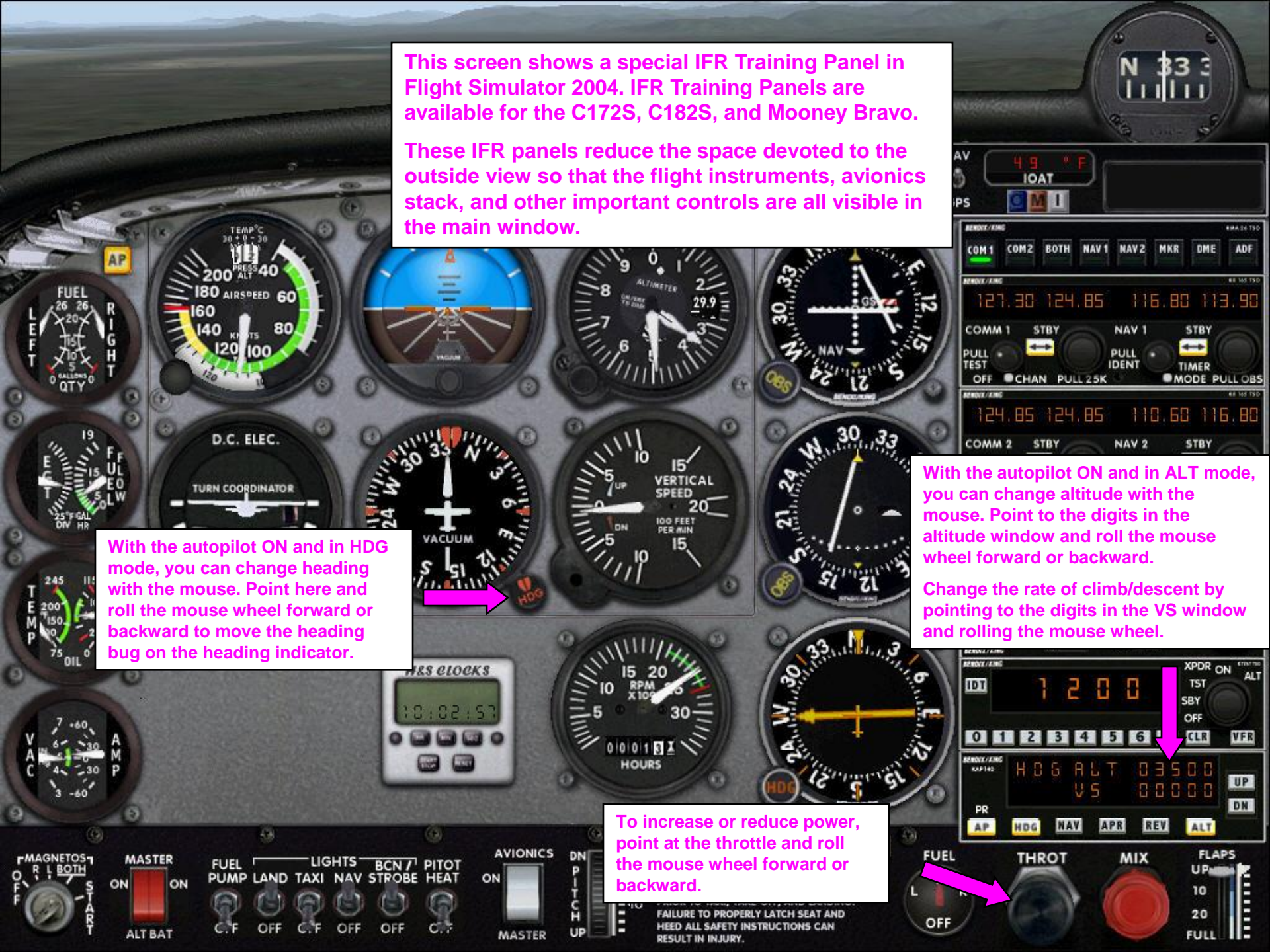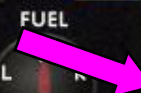
With the autopilot ON and in HDG mode, you can change heading with the mouse. Point here and roll the mouse wheel forward or backward to move the heading bug on the heading indicator.
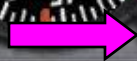
With the autopilot ON and in ALT mode, you can change altitude with the mouse. Point to the digits in the altitude window and roll the mouse wheel forward or backward.

Change the rate of climb/descent by pointing to the digits in the VS window and rolling the mouse wheel.

To increase or reduce power, point at the throttle and roll the mouse wheel forward or backward.

The Cessna 172S in Flight Simulator X includes the avionics stack in the main window.

You can use the mouse to operate controls just as in Flight Simulator 2004.

With the autopilot ON and in ALT mode, you can change altitude with the mouse. Point to the digits in the altitude window and roll the mouse wheel forward or backward.

Change the rate of climb/descent by pointing to the digits in the VS window and rolling the mouse wheel.

With the autopilot ON and in HDG mode, you can change heading with the mouse. Point here and roll the mouse wheel forward or backward to move the heading bug on the heading indicator.

To increase or reduce power, point at the throttle and roll the mouse wheel forward or backward.

To select a course on a VOR or ILS indicator, point to the appropriate OBS knob and roll the mouse wheel backward or forward.

To adjust the elevator trim with the mouse, point to the trim wheel and roll the mouse wheel forward or backward.

To extend or retract the flaps, point at the flap lever and roll the mouse wheel forward or backward.

To change a communications or navigation frequency, point to the digits in the appropriate standby frequency window and roll the mouse wheel backward or forward.

Point separately at the digits to the left (MHz) and right (KHz) of the decimal point.

To activate a frequency, click the appropriate flip-flop (STBY) button with the left mouse button.

Change the ADF frequency and transponder squawk code much as you change communication and navigation frequencies.

Point separately at each digit in the ADF and transponder displays and roll the mouse wheel.

To monitor the Morse Code ID for a navigation radio or marker beacon, point to the appropriate button on the audio panel and click the left mouse button.

Or click the Pull Ident button on the appropriate radio.

To adjust the wings of the airplane in the attitude indicator, point to the adjustment knob and roll the mouse button forward or backward.

To select the DME source, point to the selector button and click next to R1 or R2.

To select the navigation source that drives the NAV1 indicator or HSI, click the NAV/GPS switch.

To display the GPS window, click this icon.

To display the Kneeboard (which includes the Flight Briefing, keyboard shortcuts, and other information), click this icon.

To turn the master switches, lights, Pitot heat, etc. on and off, click the appropriate switches.

To turn the autopilot on and off and to select autopilot functions, click the appropriate button(s) on the autopilot panel.

Note the location of several key items in the Cessna cockpit in Flight Simulator X

NAV/GPS switch, which drives the number 1 nav indicator

Control panel icons

Autopilot ON/OFF

This is the normal cockpit view for the Baron. You can operate the main controls just as you do in any Flight Simulator cockpit, by pointing with the mouse and rolling the wheel forward or backward, dragging the mouse, or clicking the left mouse button.

To display the Kneeboard, engine controls, map, avionics stack, GPS, and other information, click one of the icons in this row.

You can adjust the pitch, aileron, and rudder trim by pointing to the appropriate trim wheel and rolling the mouse wheel forward or backward.

You can extend and retract the landing gear and flaps by pointing to the appropriate control and rolling the mouse wheel forward or backward.

To display the avionics stack while in normal cockpit view, click the Avionics icon on the instrument panel. The avionics stack appears in a pop-up window.

To hide the avionics stack, click the Avionics icon again.

To display or hide the avionics stack, click the Avionics icon.

You can change frequencies, control the autopilot, identify navaids, etc. with the mouse.

Point to the item you want to change, and roll the mouse wheel forward or backward. Or click a button or control.

To display the GPS in any aircraft, click the GPS icon on the instrument panel. The GPS appears in a pop-up window.

To hide the GPS, click the GPS icon again.

You can operate the GPS with the mouse by pointing and clicking buttons on the GPS.

You can use the mouse to drag the GPS window anywhere on the screen.

To learn more about how to use the GPS in Flight Simulator, see the GPS topics in the Learning Center.

To display or hide the GPS, click the GPS icon.

Some aircraft, like the Baron, have a separate pop-up window for engine controls.

You can drag the pop-up window anywhere on the screen.

If you prefer not to display the engine controls, you can use the throttle on the joystick or keyboard shortcuts to increase and decrease power and adjust RPM.

To increase power incrementally, press the F3 key. To decrease power, press the F2 key.

To adjust RPM, press CTRL+F3 (increase) or CTRL+F2 (decrease)

You can operate the engine controls in the pop-up window with the mouse by pointing at the appropriate control and dragging the mouse pointer up and down.

To use the fuel selector, point to the position you want to select (not the lever itself) and click.

To display or hide the engine controls, click the Engine Controls icon.

Flights   Aircraft   World   Options   Views   Help

To display the Flight Simulator menu bar, press the ALT key.

Use the mouse or the left and right arrow keys (← and →) to highlight a top-level command and the mouse or the up and down arrow keys (↑and ↓) to select commands on the drop-down menus, just as you do in any Windows application.

Flight Simulator 2004

Flights   Aircraft   World   Options   Views   Help
Load...
Reset   CTRL+;
Save...   ;

Flight Planner...
Navigation Log...

End Flight   Esc
Exit   CTRL+C

Flight Simulator X

For more information about all of the menus in Flight Simulator, see the slides later in this presentation.

Using the Practice Flights

→ The following screens show to choose and start the Practice Flights provided with *Microsoft Flight Simulator as a Training Aid,* published by ASA.

→ For more information about the book, visit the ASA Web site and www.BruceAir.com.
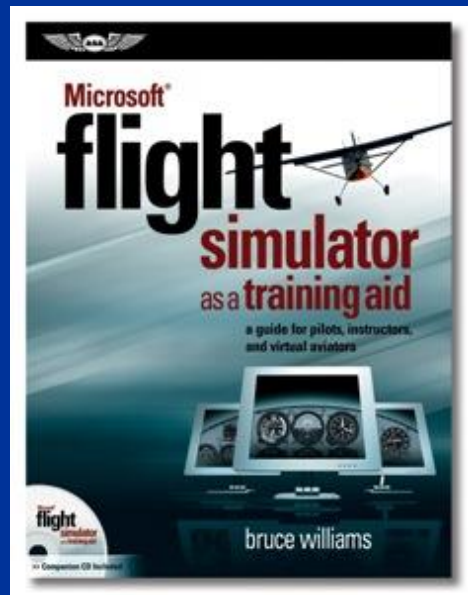
Copying the Practice Flights

- ✈ To use the Practice Flights, copy the contents of the appropriate folder from the CD that accompanies the book to the correct folder on your hard drive.

- ✈ For more information, see InstallingPracticeFlights.pdf on the CD that accompanies the book.

Installing Practice Flights
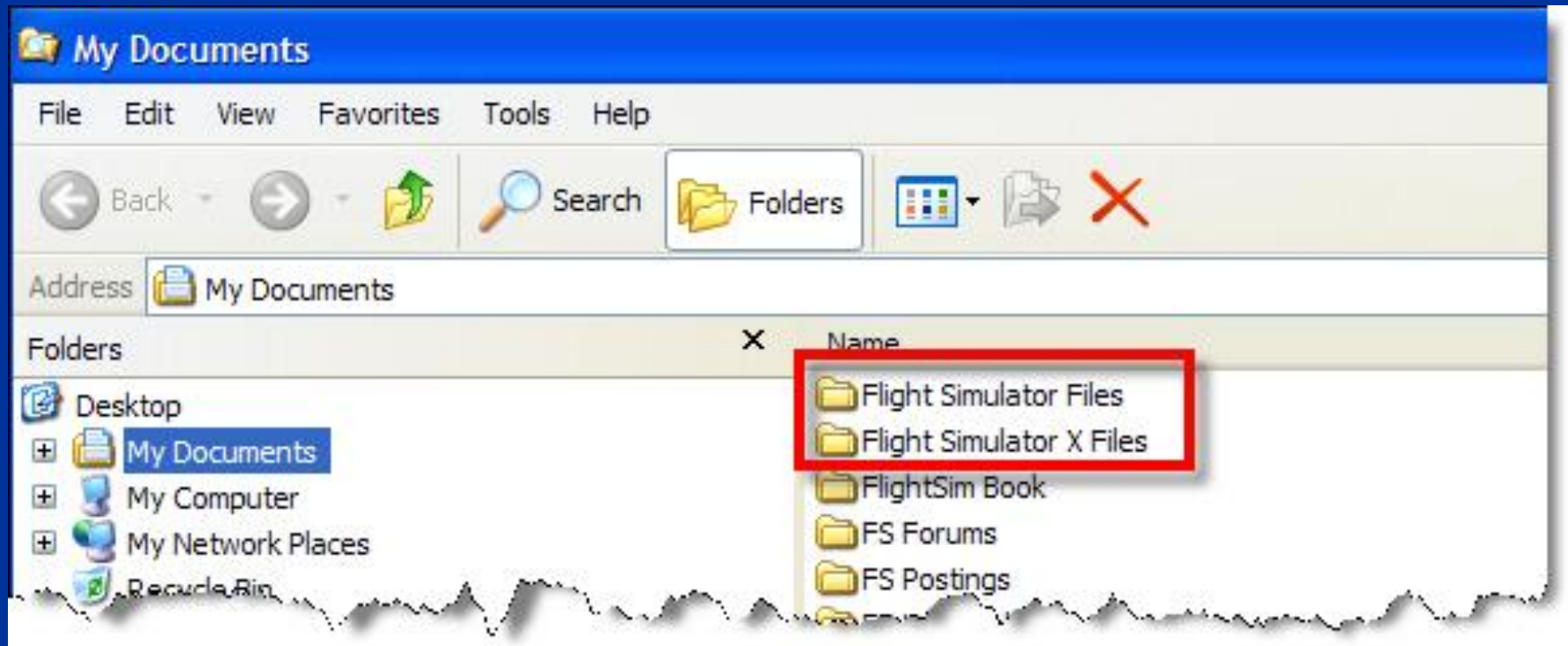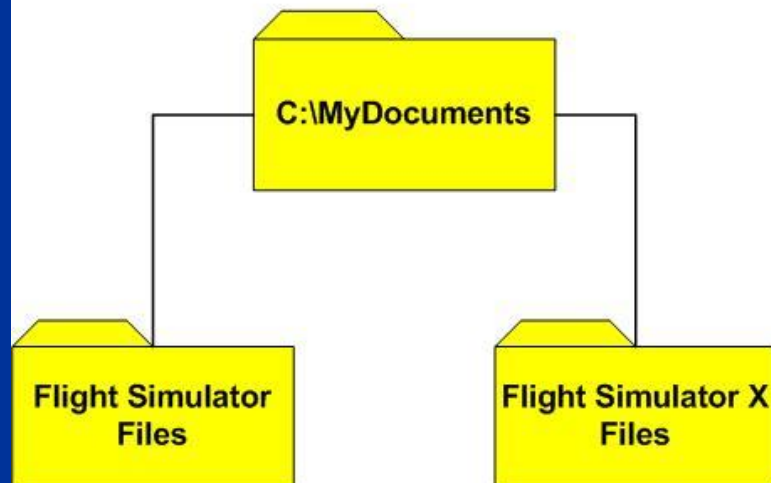
When you start Flight Simulator 2004, this dialog box appears. To start one of the Practice Flights, click Select a Flight in the left column.

CREATE A FLIGHT

GETTING STARTED

NEWS

CENTURY OF FLIGHT

CREATE A FLIGHT

SELECT A FLIGHT

FLYING LESSONS

MULTIPLAYER

LEARNING CENTER

SETTINGS

Selected aircraft

1 Cessna C172SP Skyhawk

CHANGE...

Selected location

2 N47' 25.88' W122' 21.51' +3001

CHANGE...

Selected weather

3 User-defined weather

Selected time and season

4 9/19/2004 10:49 AM

CHANGE...

To start one of the Practice Flights, click Select a Flight.

Save Flight...   Fuel and Payload...   Failures...   Flight Planner...

N176CM

FLY NOW!

SELECT A FLIGHT

1. Choose a category:

My Saved Flights
1903: Wright Flyer, First Powered Flight
1911: Flight of the Vin Fiz
1918: First United States Airmail Route
1918: The Hell Stretch
1919: Vickers Vimy Atlantic crossing
1919: England to Australia Race
1920: England to South Africa
~~1920: Barnstorming with Tex Marshall~~

Flight Simulator 2004: In the Select a Flight dialog box, click My Saved Flights. The BruceAir Practice Flights appear in the list under Choose a Flight.

Simulator screen. You can also save a Flight-in-progress: on the File menu, choose Save Flight. To learn how to create briefings for your Flights or new categories of

The titles of the Practice Flights appear in this list. Click the one you want to fly.

2. Choose a flight:

BruceAir-IFR--ADF-Navigation-C172-01
BruceAir-IFR--ADF-Navigation-C172-02
BruceAir-IFR--ADF-Navigation-C172-03
BruceAir-IFR--BAI-ALW-PSC-BE58-01
BruceAir-IFR--BAI-ALW-PSC-BE58-02
BruceAir-IFR--BAI-ALW-PSC-C172-01
BruceAir-IFR--BAI-ALW-PSC-C172-02
BruceAir-IFR--HOLDING-KSHN-MNC-BE58-01
BruceAir-IFR--HOLDING-KSHN-MNC-BE58-02
BruceAir-IFR--HOLDING-KSHN-MNC-C172-01
BruceAir-IFR--HOLDING-KSHN-MNC-C172-02

Flight description:

This Practice Flight supports learning about and rehearsing basic ADF/NDB navigation skills.Practice intercepting and tracking inbound and outbound on bearings from NDBs in the area. This Practice Flight begins in the air southwest of Seattle, WA, near the Mason County, WA NDB (MNC).

A detailed description of the selected Flight appears in this box.

Delete Flight

Make this the

GETTING STARTED

NEWS

CENTURY OF FLIGHT

CREATE A FLIGHT

SELECT A FLIGHT

FLYING LESSONS

MULTIPLAYER

LEARNING CENTER

SETTINGS

Select a category of flights.

When you're ready to begin, click Fly Now.

FLY NOW!

LOAD FLIGHT

Title

BruceAir-IFR--KCVO-CV01.CVO-C172-01
BruceAir-IFR--KALW-VOR-Rwy16-ALW-BE58-02
BruceAir-IFR--KALW-VOR-Rwy16-ALW-BE58-01
BruceAir-IFR--HOLDING-KSHN-MNC-BE58-02
BruceAir-IFR--HOLDING-KSHN-MNC-BE58-01
BruceAir-IFR--HOLDING-KSHN-MNC-C172-02
BruceAir-IFR--HOLDING-KSHN-MNC-C172-01
BruceAir-IFR--VOR-Navigation-ALW-PSC-BE58-02
BruceAir-IFR--VOR-Navigation-ALW-PSC-BE58-01
BruceAir-IFR--VOR-Navigation-ALW-PSC-C172-03
BruceAir-VFR--VOR-Navigation-C172-02
BruceAir-IFR--VOR-Navigation-ALW-PSC-C172-01
BruceAir-IFR--ADF-Navigation-C172-03
BruceAir-IFR--ADF-Navigation-C172-02
BruceAir-IFR--ADF-Navigation-C172-01
BruceAir-IFR--ADF-Navigation-BE58-01
BruceAir-VFR--VOR-Navigation-C172-03
BruceAir-VFR--VOR-Navigation-C172-01
BruceAir-VFR--TrafficPatterns-C172-03
BruceAir-VFR--TrafficPatterns-C172-01
BruceAir-VFR--TrafficPatterns-C172-02
BruceAir-VFR--Takeoffs-KOLM-Rwy17-BE58-02
BruceAir-VFR--Takeoffs-KOLM-Rwy17-BE58-01
BruceAir-VFR--Takeoffs-KOLM-Rwy35-C172-02
BruceAir-VFR--Takeoffs-KOLM-Rwy35-C172-01
BruceAir-VFR--Takeoffs-KOLM-Rwy17-C172-02
BruceAir-VFR--Takeoffs-KOLM-Rwy17-C172-01
BruceAir-VFR--MarginalWX-OLM-C172-01
BruceAir-VFR--Basic Flight Maneuvers-BE58-01

Make this the default flight

This list displays available Missions and saved flights.

BruceAir-VFR--VOR-Navigation-C172-01

Microsoft
Flight Simulator X

When the Load Flight dialog box appears, click the title of the Practice Flight that you want to fly. A description of the selected Practice Flight appears in the box.

Description

This Practice Flight supports learning about and rehearsing basic VOR tracking skills. The Flight begins west of Walla

Delete

When you're ready to fly, click Fly Now!

HELP   CANCEL   FLY NOW!

Key Flight Simulator Views

2D Cockpit	
Virtual Cockpit (3D)	
Spot Plane	
Maximize (W)	

This is the normal (2D) Cockpit view for the Cessna 172S in Flight Simulator 2004. All aircraft have similar 2D cockpit views.

All of the basic controls you need to fly the airplane are available in this view, except the avionics stack, which pops up in a small window when you click the Avionics icon. Some aircraft also have pop-up windows for engine controls and sub-panels.

The GPS also appears in a pop-up window when you click GPS icon.

You can return to this view by pressing the large black Button 2 on the top of the joystick to cycle through the views until this cockpit appears.

While in Cockpit view, you can use the mouse to move the heading bug, set courses with the OBS knobs, tune radios, and operate the autopilot, flaps, throttle, mixture, lights, and other controls.

Click this icon to display the GPS

Click this icon to display the avionics stack
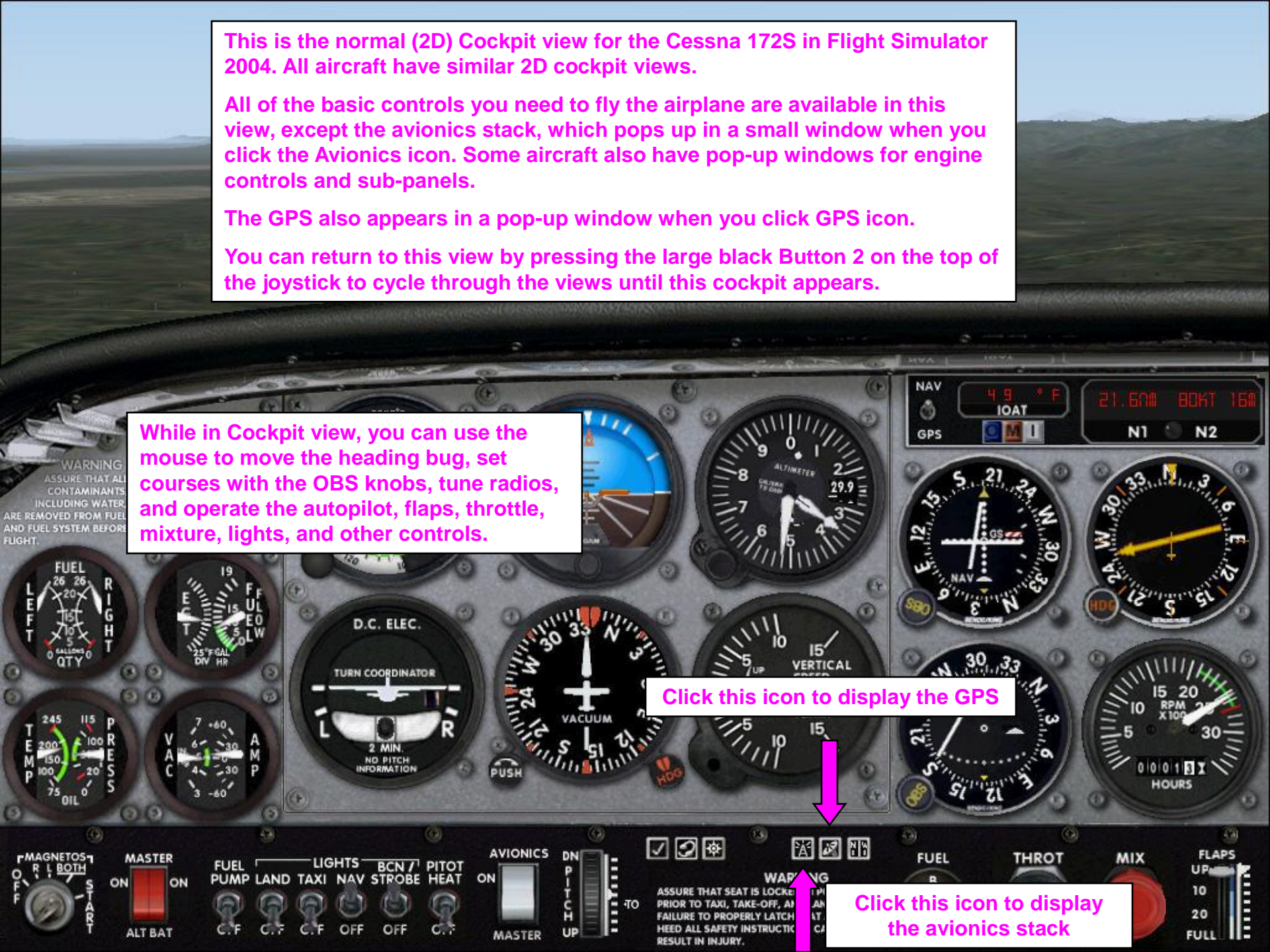
In Virtual Cockpit (3D) view, you see more of the outside view while keeping the instrument panel in view.

To switch to Virtual Cockpit view, press the large black Button 2 on the top of the joystick until the Virtual Cockpit view appears. To switch back to normal cockpit view, press Button 2 until the normal cockpit cycles back into view.

While in the Virtual Cockpit, you can zoom in and out by pressing the + and – keys on the keyboard.

To look around as if you were moving your head while in Virtual Cockpit view, move the silver "hat" switch at the top of the joystick in the direction that you want to look. Moving the "hat" switch pans (moves the view smoothly) in the direction you choose.

While in Virtual Cockpit view, you can use the mouse to move the heading bug, tune radios, and operate the autopilot, flaps, throttle, mixture, and other controls just as you do in normal Cockpit view.
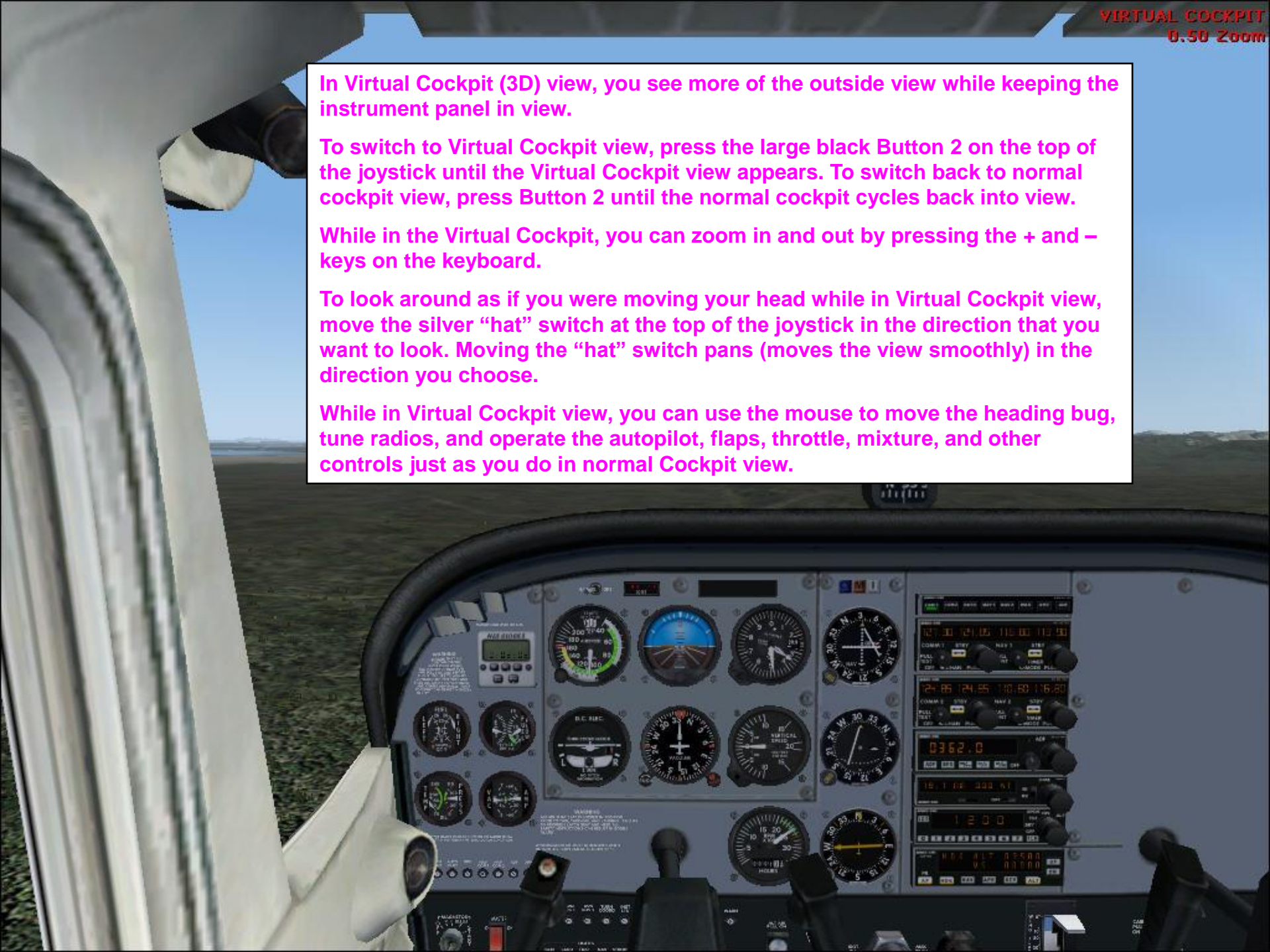
In exterior, or Spot Plane view, you see your airplane as if you were flying in formation.

To switch to Spot Plane view, press the large black Button 2 on the top of the joystick until the Spot Plane view appears. Note that you may have to cycle through the Tower view, which shows your airplane from the perspective of the control tower or airport reference point at the last airport you visited.

If you don't appear to be in close formation as you switch views, press joystick Button 2 again to continue cycling views to Spot Plane view.

To switch back to normal cockpit view, press Button 2 until that the normal cockpit cycles back into view.

While in Spot Plane view, you can zoom in and out by pressing the + and – keys on the keyboard.

To look around as if your chase plane were changing its position in formation, move the silver "hat" switch at the top of the joystick in the direction that you want the chase plane to move. You can move around, above, and below your airplane.

Maximum, or "W" view, de-clutters the main screen. In Maximum view, you see only a set of basic flight and navigation instruments along the bottom of the screen. The instruments you see depend on the type of aircraft you're flying.

Maximum view is particularly useful during the last stages of an instrument approach or landing. Think of it as "taking a peek" over the instrument panel—just as you do in real flying—as you approach the decision altitude or MDA or transition into the flare prior to touchdown.

This view is available only when you are flying in the main 2D Cockpit view.

To switch to and from Maximum view, press the W key on the keyboard (this view is not available by pressing a button on the joystick).

Pressing the W key once displays the view you see here. Pressing the W key again removes the instruments at the bottom of the screen. Pressing the W key once more cycles back to the 2D Cockpit view.

Flight Simulator X Views

✈ Most of the views in Flight Simulator X work just like those in Flight Simulator 2004.

✈ The following slides point out a few key differences. For more information about the new views in Flight Simulator X, see the topic "Using Views and Windows" in the Learning Center.

Flights   Aircraft   World   Options   Views   Help

✓ Full Screen   ALT+ENTER

Air Traffic Control
Chat Window CTRL+SHIFT+]

Instrument Panel   ►   Main Panel   ►   Off
New View   ►   Radio Stack
                            GPS   Normal
View Mode   ►   IFR Panel
Undock View   ✓   Landing View
Close View   ]

Window Titles
Axis Indicator   ►
Top-down Orientation ►

✓ Cockpit - View 00

In Flight Simulator X, the Views menu includes commands display the new Landing View and IFR Panels, where appropriate.

In some aircraft, you can also click icons to switch to Landing View or the IFR Panel.

Flight Simulator X introduces the Right Seat view, which puts you in the copilot position.

Right Seat view is especially useful when flying together with another pilot in a Shared Cockpit.

Map View

- ✈ Flight Simulator includes a Map view that shows the location of your airplane and other information—e.g., airports and navaids.

- ✈ You can also use the Map view to reposition your aircraft and to view a trail of your flight path.

In Flight Simulator 2004, to display the Map, click this icon

In Flight Simulator X, to display the Map, click this icon

Flight Simulator 2004

In Map view, you can see your aircraft's position, the location of airports and navaids, airspace boundaries, etc.

A red trail also marks your flight path.

Click these buttons to change the map scale and to hide/display map elements such as airports, VORs, NDBs, intersections, and airways.

Latitude

N47* 42.38'

Longitude

W121* 58.50

You can change your aircraft's altitude, heading, speed and LAT/LONG by clicking in these boxes and typing.

Altitude

+3521

Heading

337

Airspeed

159

The black aircraft icon shows your position.

You can use the mouse to drag the airplane icon to a new position

To return to the cockpit, click OK

HELP   CANCEL   OK

MAP

In Map view, you can see your aircraft's position, the location of airports and navaids, airspace boundaries, etc.

A red trail also marks your flight path, and a magenta line shows the GPS course to your next waypoint.

Click these buttons to change the map scale and to hide/display map elements such as airports, VORs, NDBs, intersections, airways, and weather.

Longitude

W123° 15.06'

Altitude

+6998

Heading

33

Airspeed

100

You can change your aircraft's altitude, heading, speed and LAT/LONG by clicking in these boxes and typing.

MEF
356.0

KMFRKMFR

2024/10
59F/41F
29.92

The black aircraft icon shows your position.

You can use the mouse to drag the airplane icon to a new position

To return to the cockpit, click OK

HELP   CANCEL   OK

Flight Analysis

- Flight Simulator includes Flight Analysis so you can review a flight. Flight Analysis works like a basic flight data recorder ("black box").

- The Flight Analysis screen looks like the Map view, but you can use controls like those on TV remote to replay a flight on top of the map and to review heading, airspeed, altitude readouts.
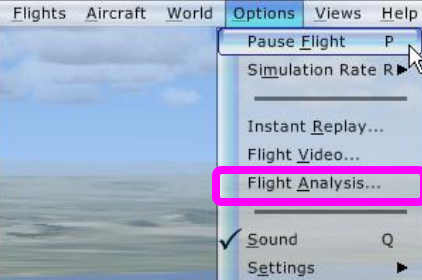
To view the Flight Analysis screen, in either Flight Simulator 2004 or Flight Simulator X, press the ALT key to display the menu bar, and then, on the Options menu, click Flight Analysis.

FLIGHT ANALYSIS

Flight Simulator 2004

Latitude
N47* 31.97'

Longitude
W122* 18.29

Altitude
+21

Heading
136

Airspeed
30

Click these buttons to zoom in and out and control what appears on the map.
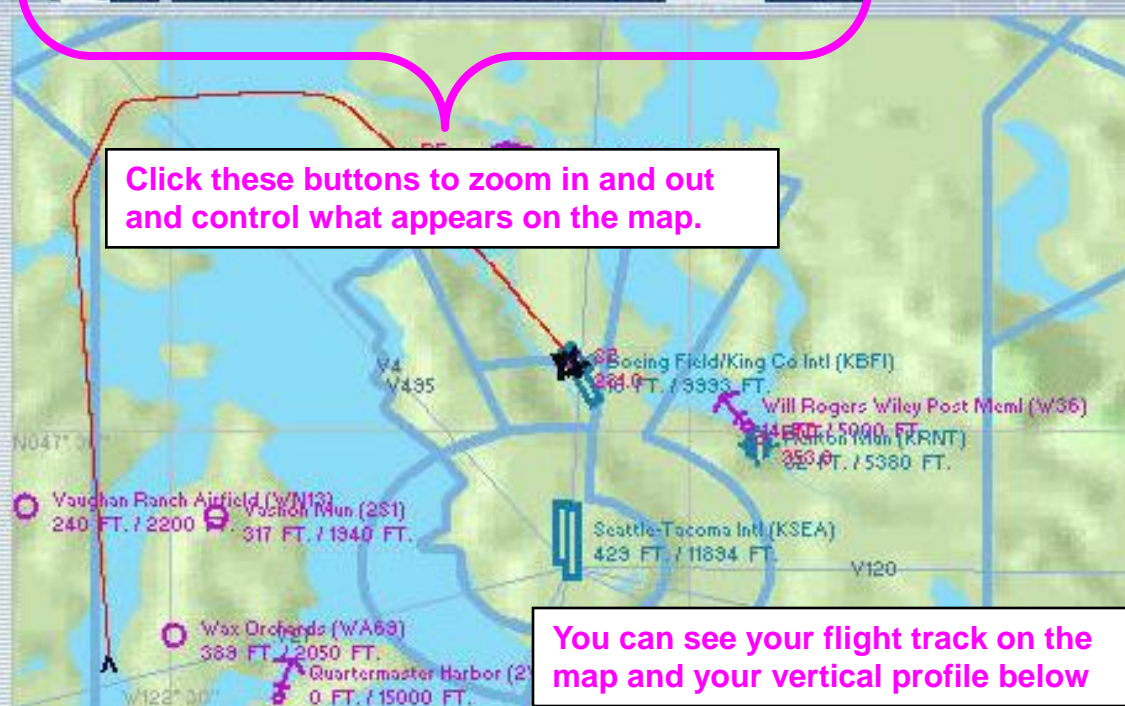
You can see your flight track on the map and your vertical profile below

Click these buttons to control the playback of your flight.

Drag the slider along this bar to set the starting point for the review of your flight.

Playback timer   10 : 26 : 02   Time compression   8x

OK

FLIGHT ANALYSIS

Latitude

N46° 57.91'

Longitude

W122° 54.34'

Altitude

+209

Heading

172

Click these buttons to zoom in and out and control what appears on the map.

You can see your flight track on the map and your vertical profile below

Click these buttons to control the playback of your flight.

3000 ft

OM

2000 ft

1000 ft

0 ft 10 mi   15 mi   20 mi   25 mi   30 mi

OM

Playback timer   15 : 09 : 12

Time compression   6x

Drag the slider along this bar to set the starting point for the review of your flight.

OK

Using Slew Mode

✈ If you want to move your airplane rapidly to a new location without using the Map view, you can use Slew mode.

✈ While in Slew mode you can use the joystick to "zoom" the airplane in any direction—left, right, forward, or backward. You can also use keyboard shortcuts to change altitude rapidly.

Keyboard Shortcuts for Slew Mode

- ✈ To switch in and out of Slew mode, press the **Y** key on the keyboard.
- ✈ While you are in Slew mode, the word **Slew** appears in red in the lower-right corner of the screen.
- ✈ To increase altitude while in Slew mode, press and hold the **Q** key.
- ✈ To decrease altitude while in Slew mode, press and hold the **A** key.

Controlling Direction in Slew Mode

- ✈ While in Slew mode, use the joystick to move your aircraft.

- ✈ Push the joystick in the direction you want to travel (forward, left, right, or backward). To stop, center the joystick.

- ✈ To change heading (rotate the aircraft about its vertical axis), twist the joystick left or right.

Joystick Controls in Slew Mode

To move the aircraft left or right, move the joystick in the direction you want to travel.

To change heading (i.e., rotate about the vertical axis) in Slew mode, twist the stick left or right.

To move the aircraft forward or backward, move the joystick in the direction you want to travel.

Pausing a Flight

✈ You can pause the simulation at any time to review the situation, look up information, or review any points of confusion

- To pause a flight at any time, press the **P** key.
- To resume flying, press the **P** key again.

Resetting a Flight

⤷ You can reset the current flight to start flying again from the beginning of the situation.

- To reset (restart) a flight, press **CTRL+;** (semicolon), or

- Press the **ALT** key to display the Flight Simulator menu bar and on the **Flights** menu, choose **Reset Flight**.

Select a Flight...
Reset Flight   CTRL+;
Save Flight...   ;

Flight Planner...
Navigation Log...

Multiplayer   ▶

End Flight   Esc
Exit   CTRL+C
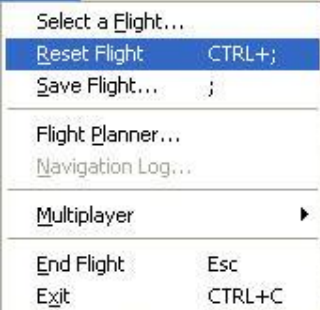
Flight Simulator 2004

To reset (restart) a flight, press the ALT key to display the Flight Simulator menu bar, and then on the Flights menu, choose Reset Flight or Reset.

Or press CTRL+; (semicolon).
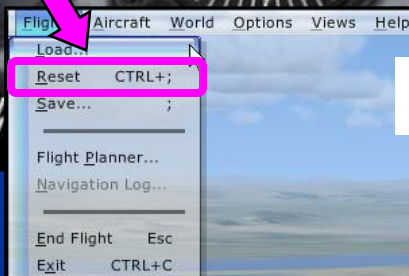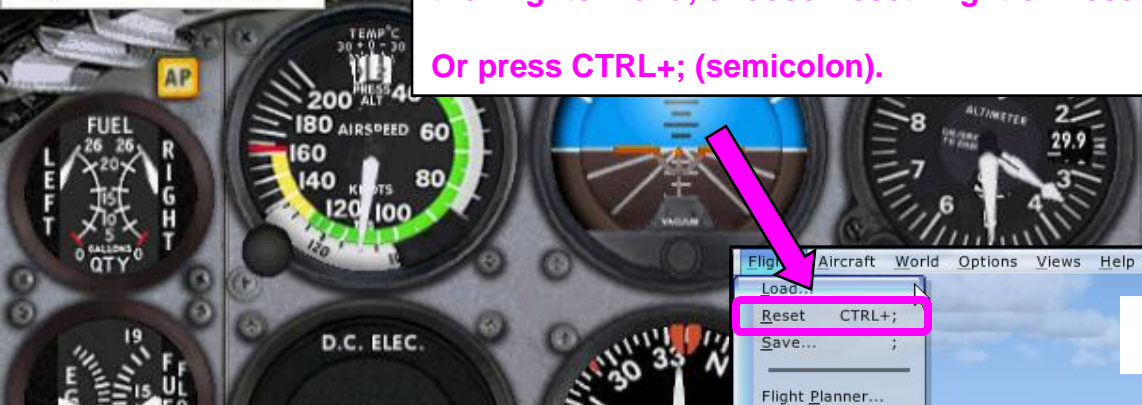
Flight | Aircraft | World | Options | Views | Help
Load...
Reset   CTRL+;
Save...   ;

Flight Planner...
Navigation Log...

End Flight   Esc
Exit   CTRL+C

Flight Simulator X

Flight Simulator 2004

Flight Simulator X

To exit Flight Simulator, on the Flights menu, choose Exit, or press CTRL+C.

Flight Simulator Menus

- ✈ The following screens show the menus first in Flight Simulator 2004 and then in Flight Simulator X.

- ✈ The menus give you an idea of the depth of features (e.g., realism settings, system failures, etc.) available in Flight Simulator.

- ✈ To learn about these features, see the articles in the **Learning Center**, which is available on the Help menu.

- ✈ To display the menu bar, press the **ALT** key (just as in any Windows application), and then use the arrow keys (→ ↑ ← ↓) or the mouse to choose commands.

Select a Flight...

Reset Flight   CTRL+;

Save Flight...   ;

Flight Planner...

Navigation Log...

Multiplayer   ▶

End Flight   Esc

Exit   CTRL+C

The commands on the Flights menu help you start a new flight, reset a flight, use the Flight Planner, end a flight, and exit Flight Simulator.

Flight Simulator 2004

SIMULATION PAUSED - Press P to continue.

On the Aircraft menu, you can choose commands to select a new aircraft, display the Kneeboard, change the fuel and payload, adjust realism settings, and set up system, instrument, and engine failures.

Flight Simulator 2004

Menu bar: Flights Aircraft World Options Views Help

World menu:
- Time and Season...
- Go to Airport...
- Map...
- Weather...

The World menu includes commands to change the time of day and season of the year and commands for repositioning your aircraft at a new airport, displaying the Map, and changing the weather.

Flight Simulator 2004

With the commands on the Options menu, you can pause a flight, change the simulation rate, replay a flight, and so forth.

Flight Simulator 2004

Full Screen   ALT+ENTER

View Options...

Air Traffic Control   `
Instrument Panel   ▶
New View   ▶

View Mode   ▶
Maximize View   W
Undock View
Close View   ]

✓ COCKPIT - View 00

The Views menu includes commands to change the display and to control ATC features.

Flight Simulator 2004

WARNING
ASSURE THAT ALL
CONTAMINANTS,
INCLUDING WATER,
ARE REMOVED FROM FUEL
AND FUEL SYSTEM BEFORE
FLIGHT.

WARNING
ASSURE THAT SEAT IS LOCKED IN POSITION
PRIOR TO TAXI, TAKE-OFF, AND LANDING.
FAILURE TO PROPERLY LATCH SEAT AND
HEED ALL SAFETY INSTRUCTIONS CAN
RESULT IN INJURY.

Flights menu:

- **Load...**
- **Reset**   CTRL+;
- **Save...**   ;
- **Flight Planner...**
- **Navigation Log...**
- **End Flight**   Esc
- **Exit**   CTRL+C

The commands on the Flights menu help you start a new flight, reset a flight, use the Flight Planner, end a flight, and exit Flight Simulator.

Flight Simulator X

Select Aircraft...
Kneeboard

Visual Flight Path...
Fuel and Payload...
Smoke System   I

Realism Settings...
Failures...

On the Aircraft menu, you can choose commands to select a new aircraft, display the Kneeboard, display a visual flight path, change the fuel and payload, adjust realism settings, and set up system, instrument, and engine failures.

Flight Simulator X

MANEUVERING
SPEED 105 KIAS

OAT   VOLTS

43° F
13:11:50

SELECT   CTRL

WARNING

FUEL
26 26
20
15
10
5
0 GALLONS 0
QTY

25°F GAL
DIV HR

D.C. ELEC.

TURN COORDINATOR

L   R

2 MIN.
NO PITCH
INFORMATION

PUSH

TEMP C

200 40
180 AIRSPEED 60
160
140 KNOTS 80
120 100

ALTIMETER
29.9

VACUUM

VERTICAL
SPEED
15
5 UP
20
DN
100 FEET
PER MIN
5
10 15

NAV

VACUUM

WARNING

Time and Season...

Go to Airport...
Map...

Weather...

Scenery Library...

The World menu includes commands to change the time of day and season of the year and commands for repositioning your aircraft at a new airport, displaying the Map, and changing the weather.

Flight Simulator X

Flights Aircraft World **Options** Views Help

Pause Flight   P
Simulation Rate R ▶

Instant Replay...
Flight Video...
Flight Analysis...

✓ Sound   Q
Settings   ▶
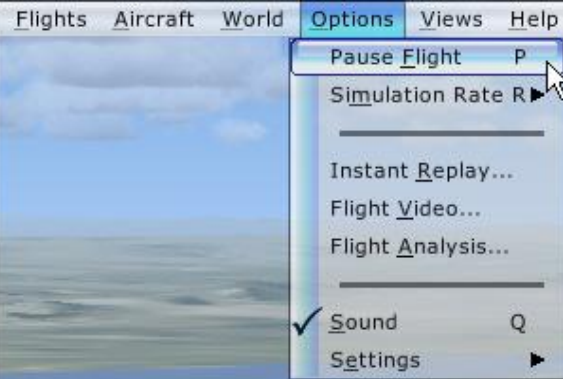
With the commands on the Options menu, you can pause a flight, change the simulation rate, replay a flight, view Flight Analysis, and so forth.

Flight Simulator X

Flights | Aircraft | World | Options | Views | Help

✓ Full Screen   ALT+ENTER

Air Traffic Control
Chat Window CTRL+SHIFT+]
Instrument Panel   ▶
New View   ▶

View Mode   ▶
Undock View
Close View   ]

Window Titles
Axis Indicator   ▶
Top-down Orientation ▶

✓ Cockpit - View 00

The Views menu includes commands to change the display and to control ATC features.

Flight Simulator X

Menu bar: Flights | Aircraft | World | Options | Views | Help

Views menu:
- ✓ Full Screen   ALT+ENTER
- Air Traffic Control
- Chat Window CTRL+SHIFT+]
- Instrument Panel ►
- New View ►
- View Mode ►
- Undock View
- Close View   ]
- Window Titles
- Axis Indicator ►
- Top-down Orientation ►
- ✓ Cockpit - View 00

Instrument Panel submenu:
- Main Panel
- Radio Stack
- GPS

Main Panel submenu:
- Off
- Normal
- IFR Panel
- ✓ Landing View

In Flight Simulator X, the Views menu includes commands display the new Landing View and IFR Panels, where appropriate.

In some aircraft, you can also click icons to switch to Landing View or the IFR Panel.

More Sources of Information

✈ For more information about Microsoft Flight Simulator, visit the official Web site at www.fsinsider.com.

✈ You can also find more information about Flight Simulator and *Microsoft Flight Simulator as a Training Aid* at www.BruceAir.com.